

VALUE ENGINEERING STUDY WORKBOOK and ATTACHMENTS

Project Description, Team Members.....	1-2
Input Information.....	3-9
Constraints	
Circulation Plan	
SRTC Traffic Information	
Master Plan	
Hatch Road Interchange	10-11
Meadowlane Road	12-13
Qualchan Drive	14
Cheney-Spokane Interchange	15-16
Thorpe Road	17-18
Sixteenth Avenue	19
Evaluation Summaries, Advantages and Disadvantages	20-30
Wetland Areas.....	31-32
Construction Phasing.....	33-34

VALUE ENGINEERING STUDY

SR 195 CORRIDOR SAFETY STUDY
STUDY IDENTIFICATION NUMBER

JANUARY 4-8, 1999
DATE

PROJECT NAME: US 195 CORRIDOR SAFETY STUDY

HIGHWAY ROUTE: US 195 PROJECT TERMINI I-90 TO HATCH ROAD

PROJECT DESCRIPTION: THE US 195 CORRIDOR SOUTH OF I-90 HAS BEEN CLASSIFIED AS A HAZARDOUS ACCIDENT CORRIDOR. WITHIN THE CORRIDOR ARE HAZARDOUS ACCIDENT LOCATIONS AT KEY INTERSECTIONS. THIS STUDY WILL CONSIDER THE SAFETY IMPROVEMENTS NECESSARY TO ADDRESS THE TRAFFIC CONGESTION, CONFLICTS, AND ACCIDENT LOCATIONS. TWO NEW INTERCHANGES ARE PROPOSED, AND CLOSURE OF SOME OF THE INTERCHANGES WILL BE NECESSARY. ARTERIAL STREET IMPROVEMENTS MAY BE NECESSARY, WITH THE POSSIBILITY OF ADDITIONAL CITY ARTERIALS OR FRONTAGE ROADS.

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324 6007

US 195 CORRIDOR SAFETY STUDY
PROJECT BRIEFING JAN 4, 1999

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SR 195 VE Study Constraints

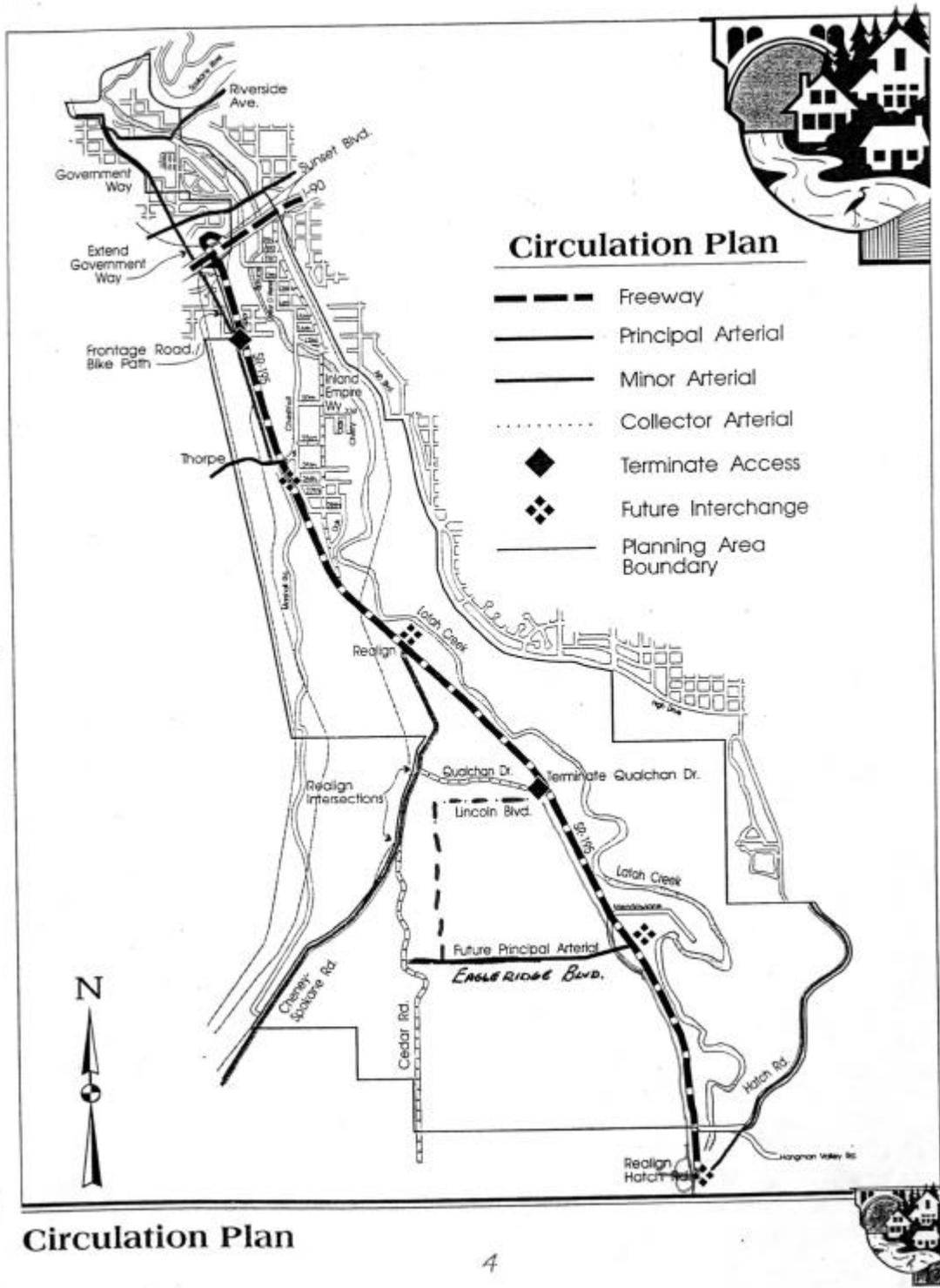
1. **No Traffic Signals-** SR 195 is part of the National Highway System and has a significant role in inter-city and interstate movement of people and goods. In addition traffic signals tend to modify the type of accidents happening in an area, not reduce them. Traffic signals also tend to lower average speeds on a facility and that in turn tends to increase carbon monoxide emission rates.

SR 195 is a primary north-south highway providing the most direct route to and from Spokane for rural and urban areas south of Spokane in eastern Washington.

2. **No reduced speeds on SR 195** - This section of 4 lane, median divided highway was designed to carry traffic at 70 mph. Driver perception is therefore to drive this facility at a highway speeds. While increased enforcement could help to keep speeds lowered, as soon as the enforcement was gone speeds would tend to increase again to what is expected. Also with the lower average speeds an increase in carbon monoxide emission rates could be expected.
3. **Focus on Safety Improvements on the 195 corridor** - This study's primary purpose is the improvement of safety along the SR 195 corridor from Hatch Rd to SR 90. Improvements at SR 90, which may improve mobility, do little for the safety issues on SR 195 and could be addressed in a later study.
4. **The preferred alternative should have a maximum of 2 interchanges** with connecting frontage roads where required. Topographic features, potential environmental impacts, and socio-economic factors severely limit the available options to improve this section of highway. An interchange will typically cost in excess of 10 million dollars with the associated frontage roads averaging about 1 million dollars per mile. It is felt that present government resources cannot economically support anything more than this.

Design standards also recommend that interchanges be spaced no closer than 2 miles apart. With a study area of 5 miles and an existing interchange at SR 90 this standard would limit the study to 2 additional interchanges.

5. **Maintain connections for areas south and west of Inland Empire Way** - SR 195 is the only arterial for neighborhoods in this area. As such, some sort of connection needs to be maintained for these areas. In addition, routes should provide for local traffic via frontage roads or grade separations from SR 195 to move within and through the local community.



Circulation Plan

SRTC

SPOKANE REGIONAL TRANSPORTATION COUNCIL

808 W. Spokane Falls Blvd ● Spokane, WA 99201-3337 ● 509/625-6370 ● FAX 625-6988

M E M O R A N D U M

To: Clyde Slemmer
From: Kelly McGourty, Transportation Planner
Date: January 8, 1999
RE: SR 195 Corridor Value Engineering Study
Modeling Results

This memo serves as a brief overview of the final modeling performed for the SR 195 Corridor Value Engineering Study.

SRTC uses TModel2 (TM2), a land use based travel demand model, for PM peak hour traffic analysis. The model is comprised of transportation analysis zones (TAZs) organized within a network of links (street segments) and nodes (intersections). Each TAZ contains housing and employment data, which the model uses to generate and distribute trips over the network. Trips enter and exit the network through various loading points in each TAZ. TM2 is used to evaluate impacts to the transportation system from changes in roadways and/or land use.

The analyses conducted for this study were done for the forecast year 2020. SRTC's forecast land use files include existing, approved, and proposed residential and commercial developments in the study area. In addition, the assumptions used to create these forecast files were made consistent with the Growth Management Act, forecast population allocations, and the Interim Urban Growth Areas as adopted by Spokane County.

Based on the results of the model, in the No Build, or Base Conditions, scenario, the following locations become congested by the forecast year 2020: I-90; the I-90/SR 195 interchange; southbound SR 195 and nearly all of the intersections along SR 195; southbound Inland Empire Way and its intersections; 16th Avenue and its intersections; westbound Thorpe and its intersections; southbound Cheney-Spokane and its intersections; westbound Qualchan and its intersections; westbound Meadowlane to Eagle Ridge; and Hatch Road and its intersections. In other words, nearly every road in the corridor experiences congestion in the No Build conditions by the forecast year 2020.

The alternative which was chosen as the "Preferred Alternative" for the corridor by the Value Engineering Team includes the following improvements: no access to SR 195 from 16th Avenue; a frontage road parallel to SR 195 on the west from 16th Avenue to Cheney-Spokane; a crossover of SR 195 at Thorpe; a split interchange with the northbound ramps near Inland Empire Way and the southbound ramps near Cheney-Spokane, with a crossover of SR 195 connecting the two; no access to SR 195 from Qualchan; a frontage road from Qualchan to Hatch running parallel to SR 195 on the west; a crossover of SR 195 at Meadowlane; and a full interchange at Hatch.

Comparing the results of this alternative network with the No Build conditions, the following congested locations were found to improve over base conditions: mainline I-90; the I-90/SR 195 interchange; mainline SR 195; due to the removal of all at-grade intersections along SR 195, no congestion is found at these locations; Inland Empire Way to the north of Thorpe; 16th Avenue; westbound Thorpe; and westbound Qualchan. The overall result of this alternative network is to redistribute traffic away from SR 195 and to eliminate the safety problem created by turning movements at the at-grade intersections. Due to this, some areas become congested with this alternative network, particularly those areas containing new facilities such as the frontage roads or the new interchanges to SR 195. However, certain assumptions were made on the new facilities in terms of intersection control, capacity, speed, etc. in order to run the model. By adjusting these assumptions as needed, for example changing an intersection from a stop control to a signal,

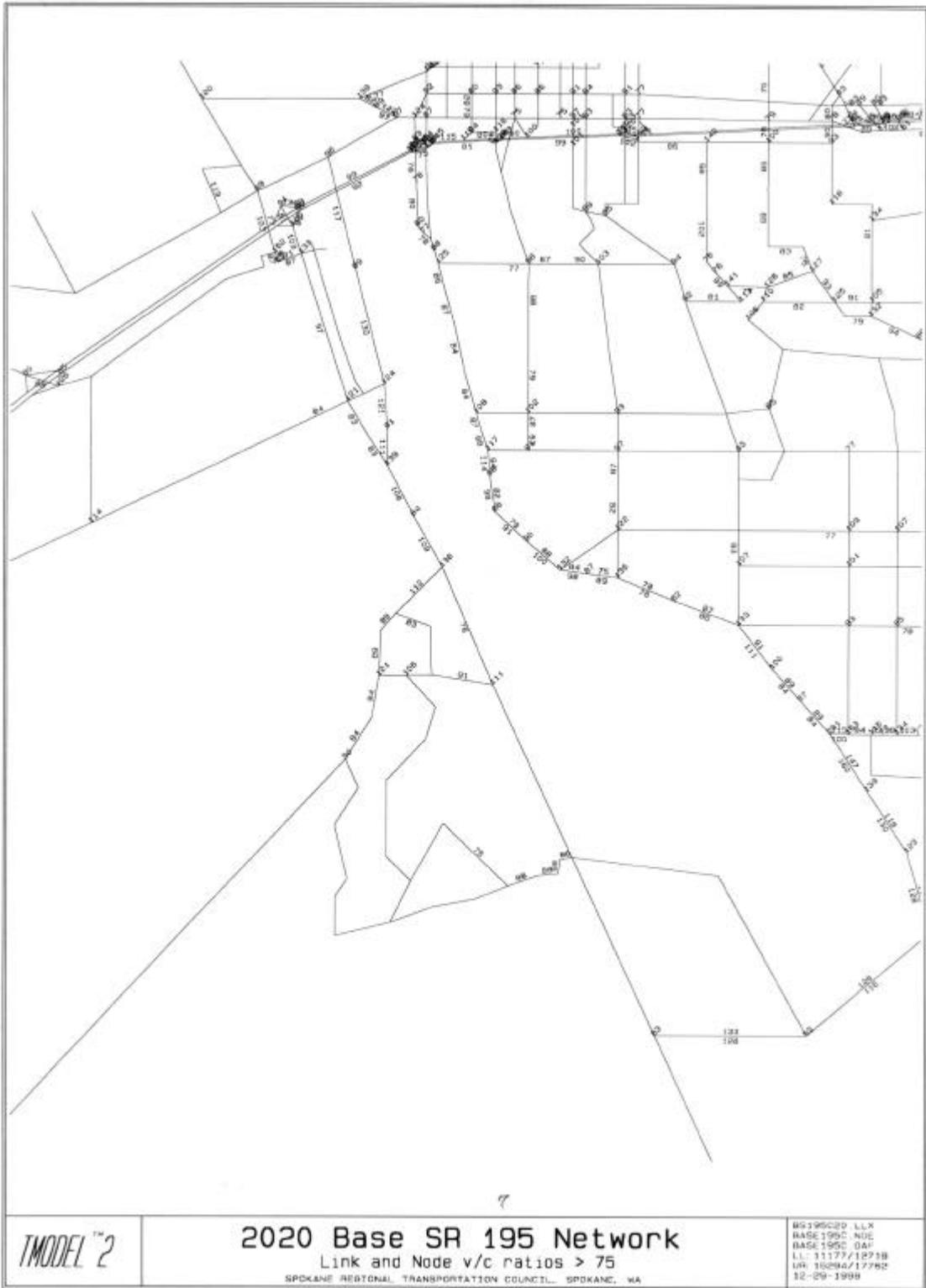
some of this projected congestion may be alleviated. These decisions will be more accurately made during the actual design of these new facilities.

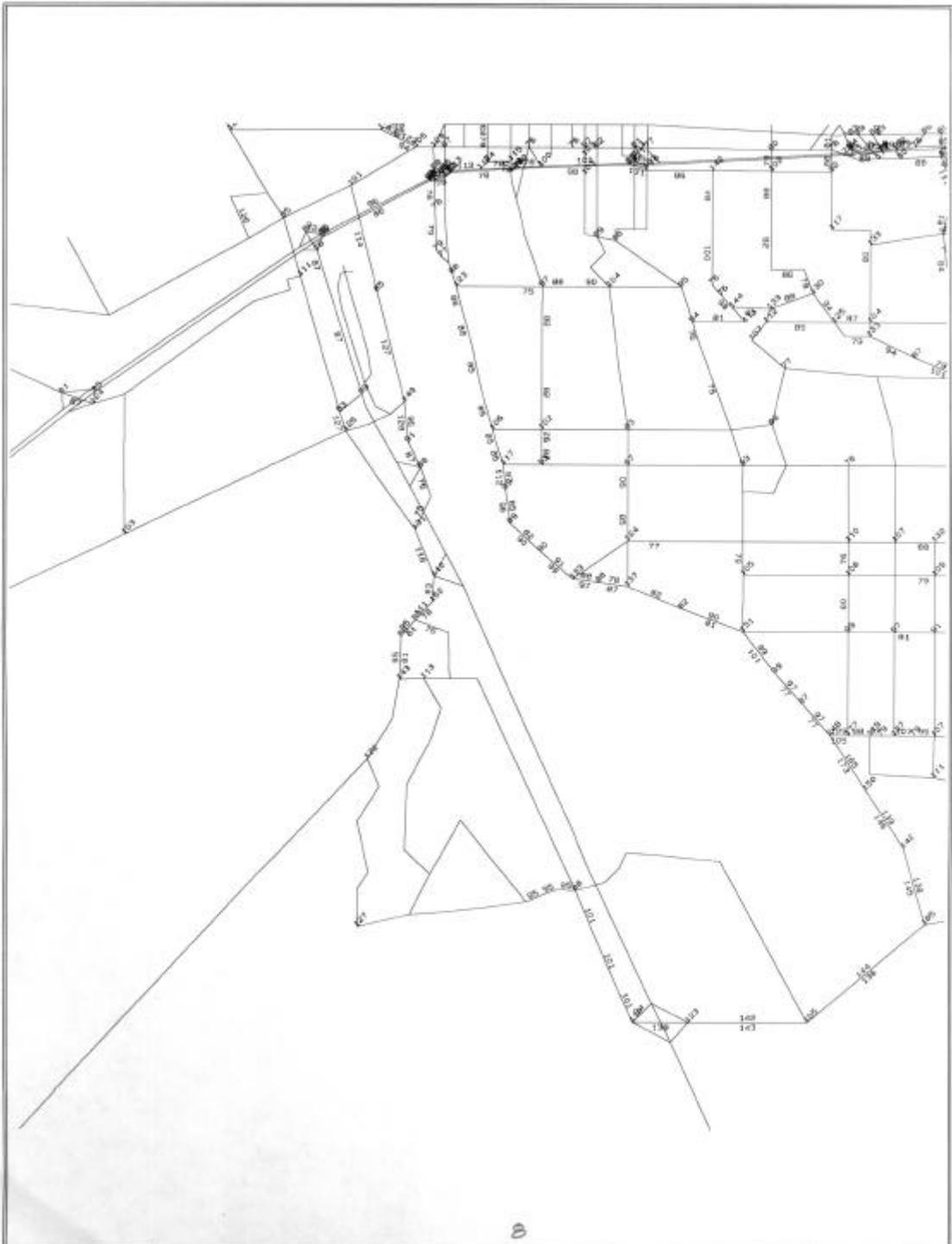
In the No Build, or Base Conditions, scenario, by 2020 the following locations are congested (i.e. having a volume to capacity [v/c] ratio of 0.75 or higher):

- I-90: mainline I-90 in both directions east of SR 195
- I-90/SR 195 interchange: westbound off ramp; eastbound onramp; both ramp terminals; and the intersection of I-90 with the eastbound onramp and the westbound off ramp
- SR 195: southbound from I-90 to Qualchan; and the intersection of SR 195 with 16th, Thorpe, Inland Empire Way, Cheney-Spokane, Qualchan, and Hatch
- Inland Empire Way: southbound from Sunset to SR 195; and the intersection of Inland Empire Way with Sunset, Thorpe, and SR 195
- 16th Avenue: both directions west of SR 195; and the intersection of 16th with SR 195
- Lindeke: southbound from Sunset; and the intersection with 14th
- Thorpe: westbound from SR 195; and the intersection of Thorpe with Inland Empire Way, SR 195 and Assembly
- Cheney-Spokane: southbound from SR 195 to Cedar; and the intersection of Cheney-Spokane with SR 195, Qualchan, and Cedar
- Qualchan: westbound from SR 195; and the intersection of Qualchan with SR 195, Lincoln, and Cheney-Spokane
- Meadowlane: westbound from SR 195 to Eagle Ridge
- Hatch: both directions east of SR 195; and the intersection of Hatch with SR 195

In the “Preferred Alternative” chosen by the Value Engineering Team, by the forecast year 2020 the following comparisons to the No Build scenario are noted:

- I-90: congestion on mainline I-90 in both directions east of SR 195 improved over base conditions
- I-90/SR 195 interchange: all congested points improved over base conditions
- SR 195: southbound SR 195 congestion improved over base conditions; all at-grade intersections removed, therefore no congestion at these locations
- Inland Empire Way: southbound Inland Empire Way congestion improved over base conditions from Sunset to Thorpe; south of Thorpe, congestion worsened in certain areas due to new connection to northbound on and off ramps to SR 195; the intersection of Inland Empire Way with Sunset and with Thorpe is worsened over base conditions; the intersection of Inland Empire Way with SR 195 is removed
- 16th Avenue: all congestion points improved over base conditions
- Lindeke: all congestion points improved over base conditions
- Thorpe: westbound from SR 195 improved over base conditions; the intersection of Thorpe with Inland Empire Way is worsened due to the new connection to and from northbound SR 195; the intersection of Thorpe with SR 195 is removed; and the intersection of Thorpe with Assembly is improved over base conditions
- Cheney-Spokane: southbound Cheney-Spokane is in certain locations improved and in others worsened; northbound Cheney-Spokane becomes congested with the alternative due to the new connection to a split interchange at SR 195; the intersection of Cheney-Spokane with SR 195 is removed; the intersection of Cheney-Spokane with Qualchan and Cedar is worsened
- Qualchan: westbound from SR 195 is improved over base conditions; the intersection of Qualchan with SR 195 is removed; the intersection of Qualchan with Lincoln and with Cheney-Spokane is worsened
- Meadowlane: westbound from SR 195 to Eagle Ridge is worsened over base conditions
- Hatch: both directions east of SR 195 are worsened over base conditions; the intersection of Hatch with SR 195 is removed
- Frontage roads: various points along the frontage roads become congested with this alternative





TMODEL™2

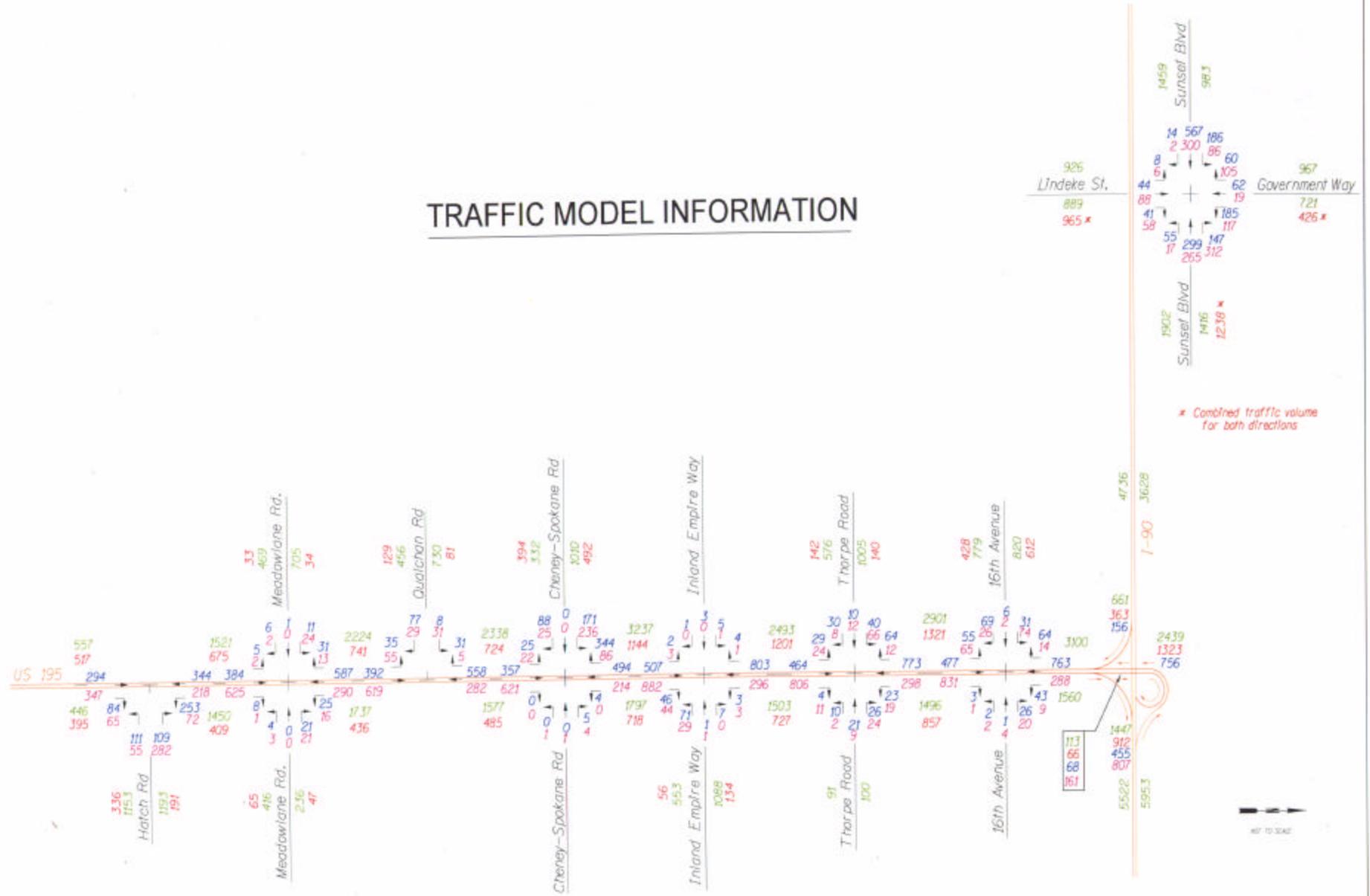
SR 195 Alternative 10 Network

2020 Link and Node v/c ratios > 75

SPokane REGIONAL TRANSPORTATION COUNCIL, SPOKANE, WA

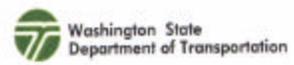
20HYBR10_LL4
 8HYBR10_NOE
 8HYBR10_DAF
 LL 11000/12761
 UR 10429/12619
 01-07-1999

TRAFFIC MODEL INFORMATION



DESIGNED BY		REGION NO.	STATE	FED. AID PROJ. NO.
ENTERED BY		10	WASH	
CHECKED BY		JOB NUMBER		
PROJ. ENGR.		CONTRACT NO.		
DATE/TIME: 4/16/00				

ENVIRONMENTAL AND ENGINEERING SERVICE CENTER



2020 SRTC PM PEAK HOUR TRAFFIC
1996 SRTC PM PEAK HOUR TRAFFIC
1998 WSDOT PM PEAK HOUR TRAFFIC
1998 WSDOT AM PEAK HOUR TRAFFIC

US 195 VE Study

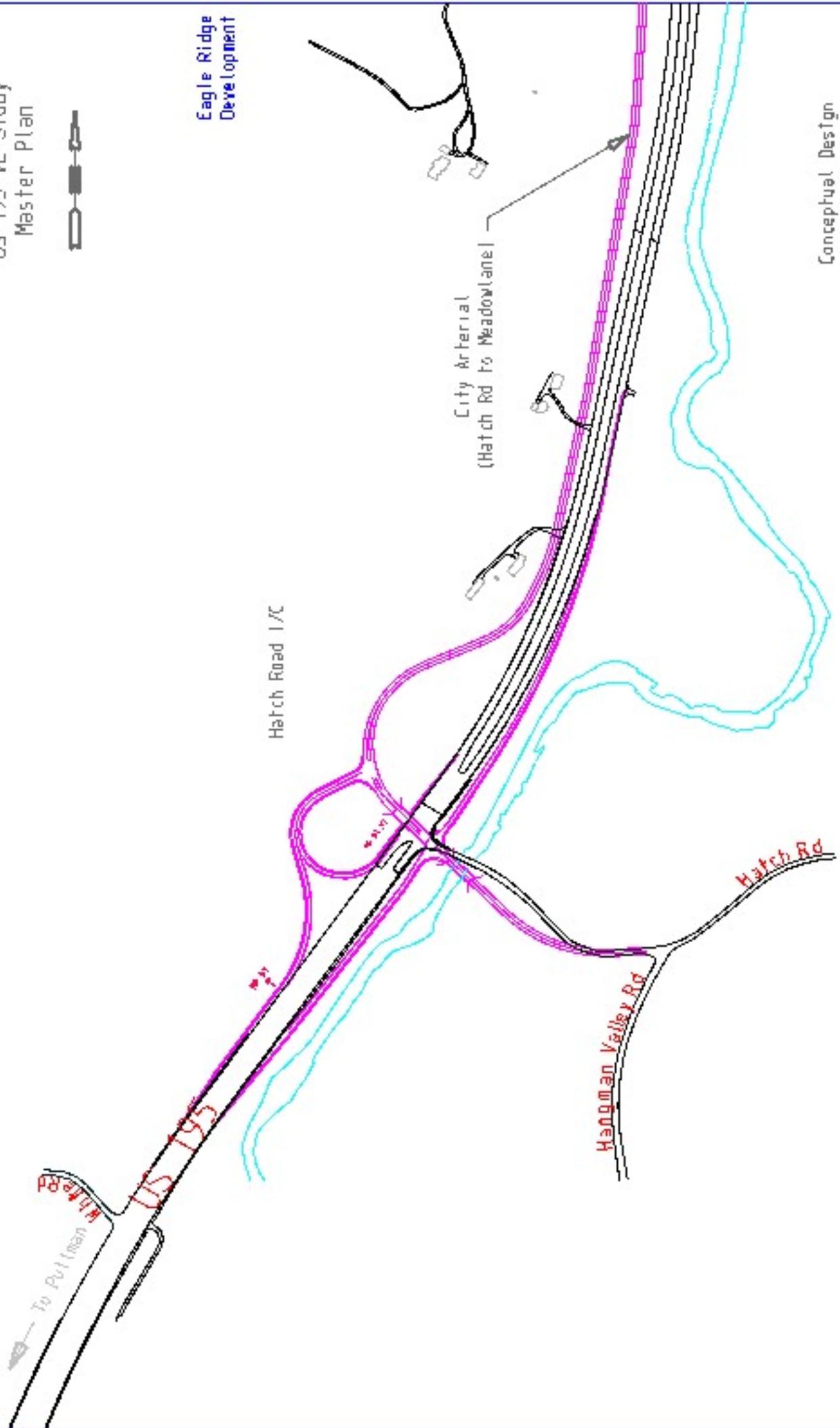
US 195 VE Study
Master Plan



Eagle Ridge
Development

Hatch Road I/C

City Arterial
(Hatch Rd to Meadowlane)



Conceptual Design
Scale 1"=400'

US 195 VE Study
Master Plan



Hatch Road
Interchange

City Arterial
Hatch Road
to Meadowlane I

US 195

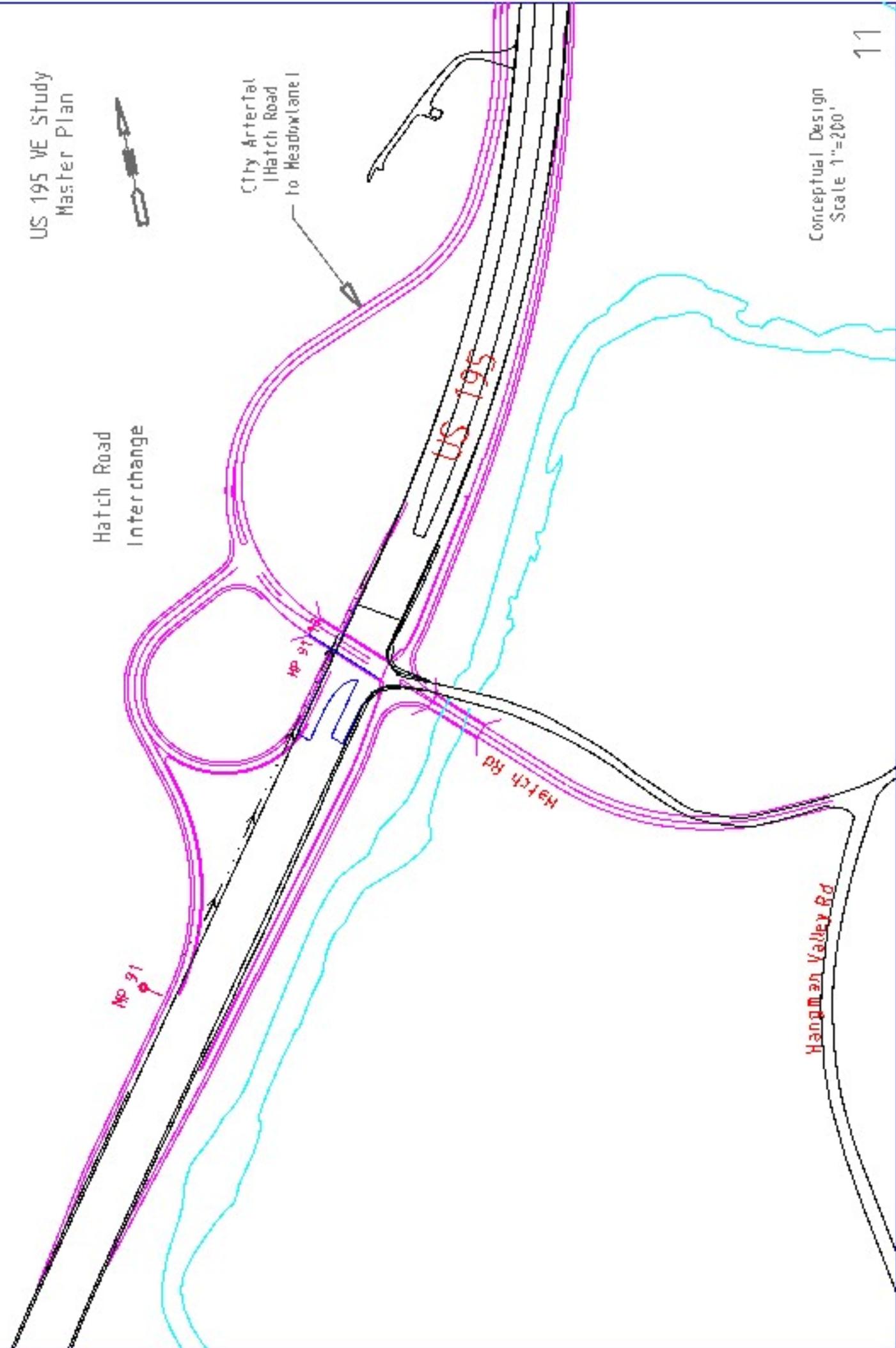
Ap 91

Hatch Rd

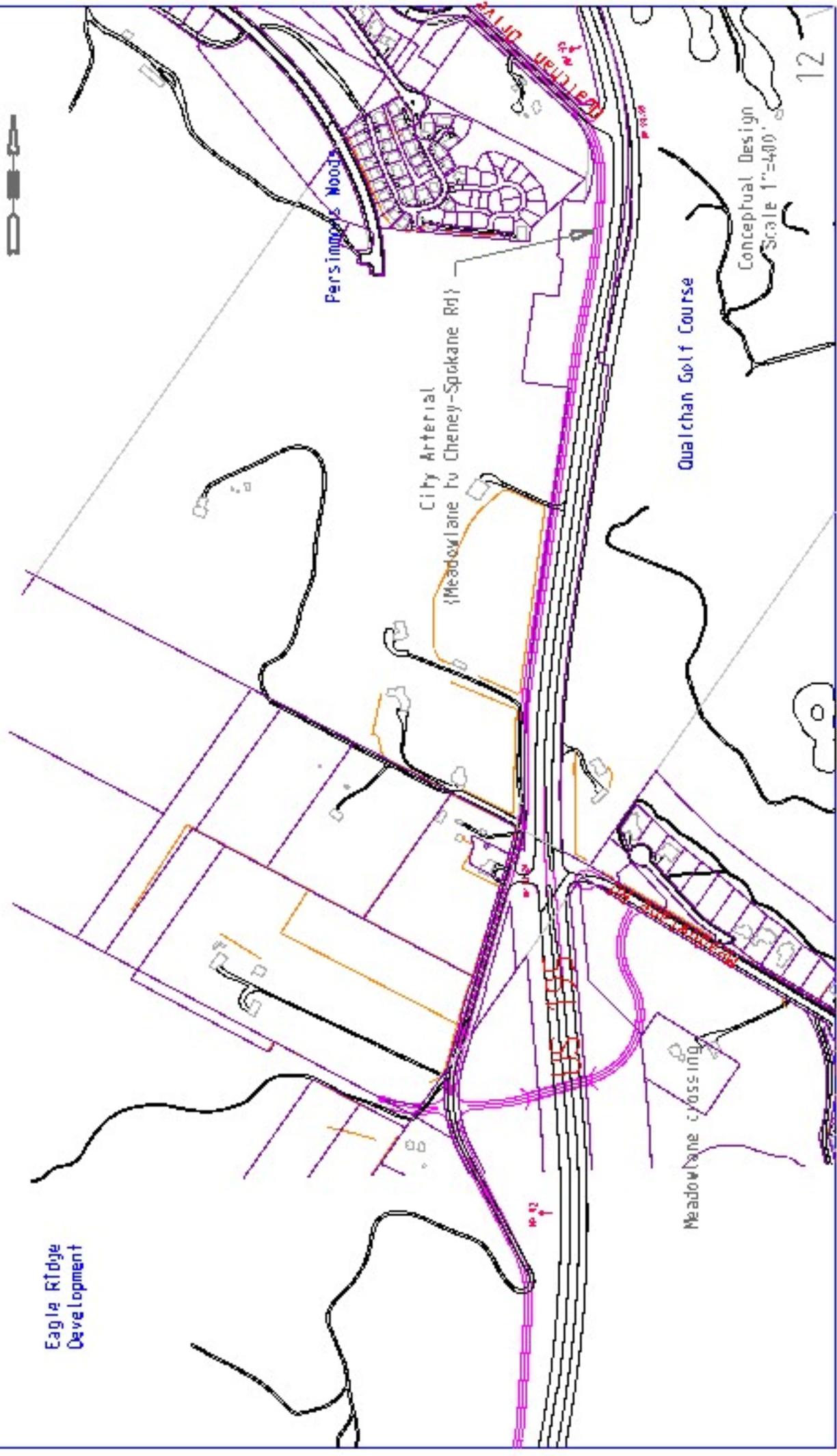
Ap 91

Hamman Valley Rd

Conceptual Design
Scale 1"=200'



US 195 VE Study
Master Plan



Eagle Ridge
Development

Persimmon Woods

City Arterial
(Meadowlark to Cheney-Spokane Rd)

Qualchan Golf Course

Meadowlark Crossing

Conceptual Design
Scale 1"=400'

US 195 VE Study
Master Plan

UNPLANNED

City Arterial
(Meadowlane to
Cheney-Spokane Rd)

Meadowlane
Crossing

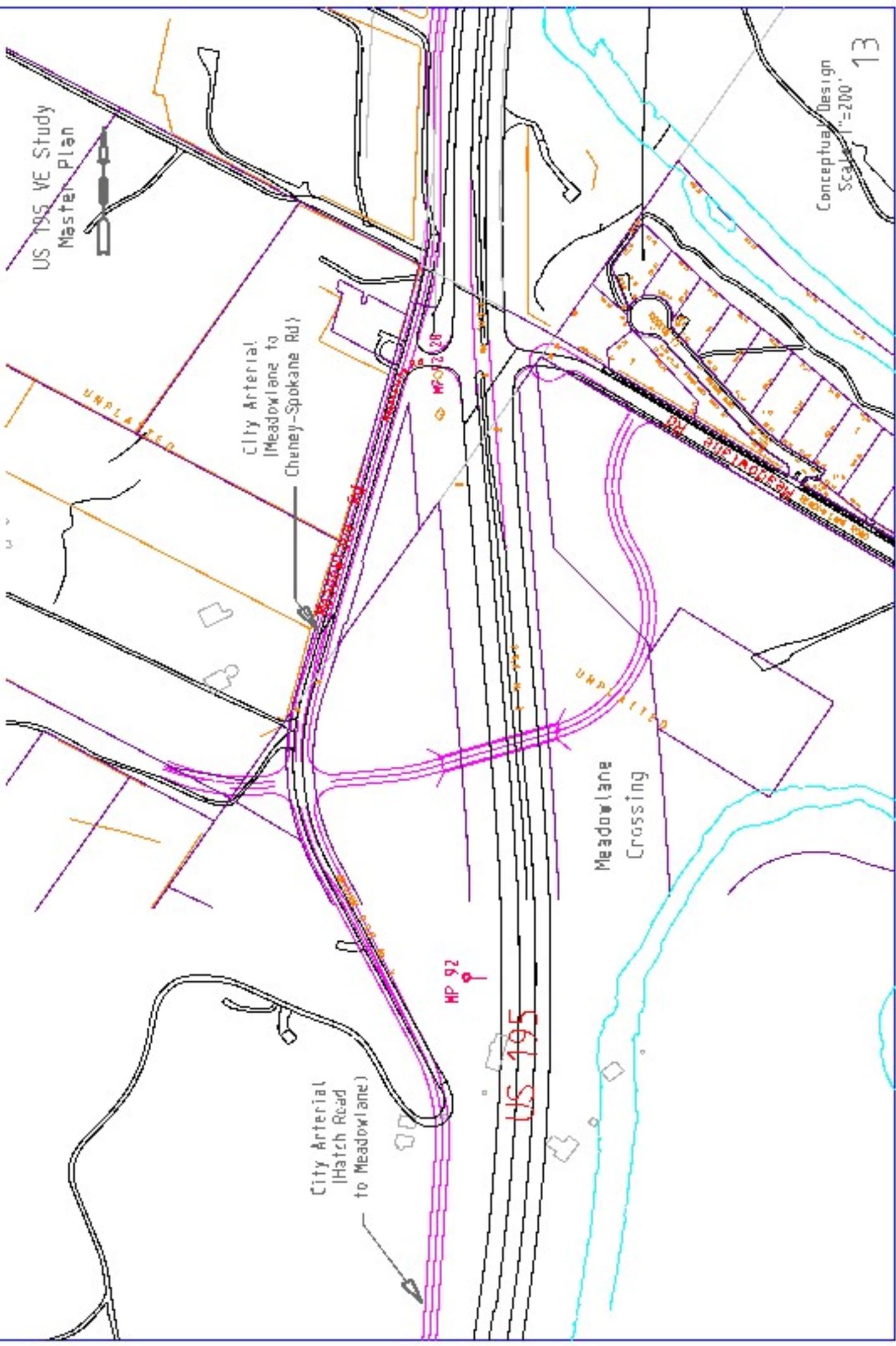
UNPLANNED

City Arterial
(Hatch Road
to Meadowlane)

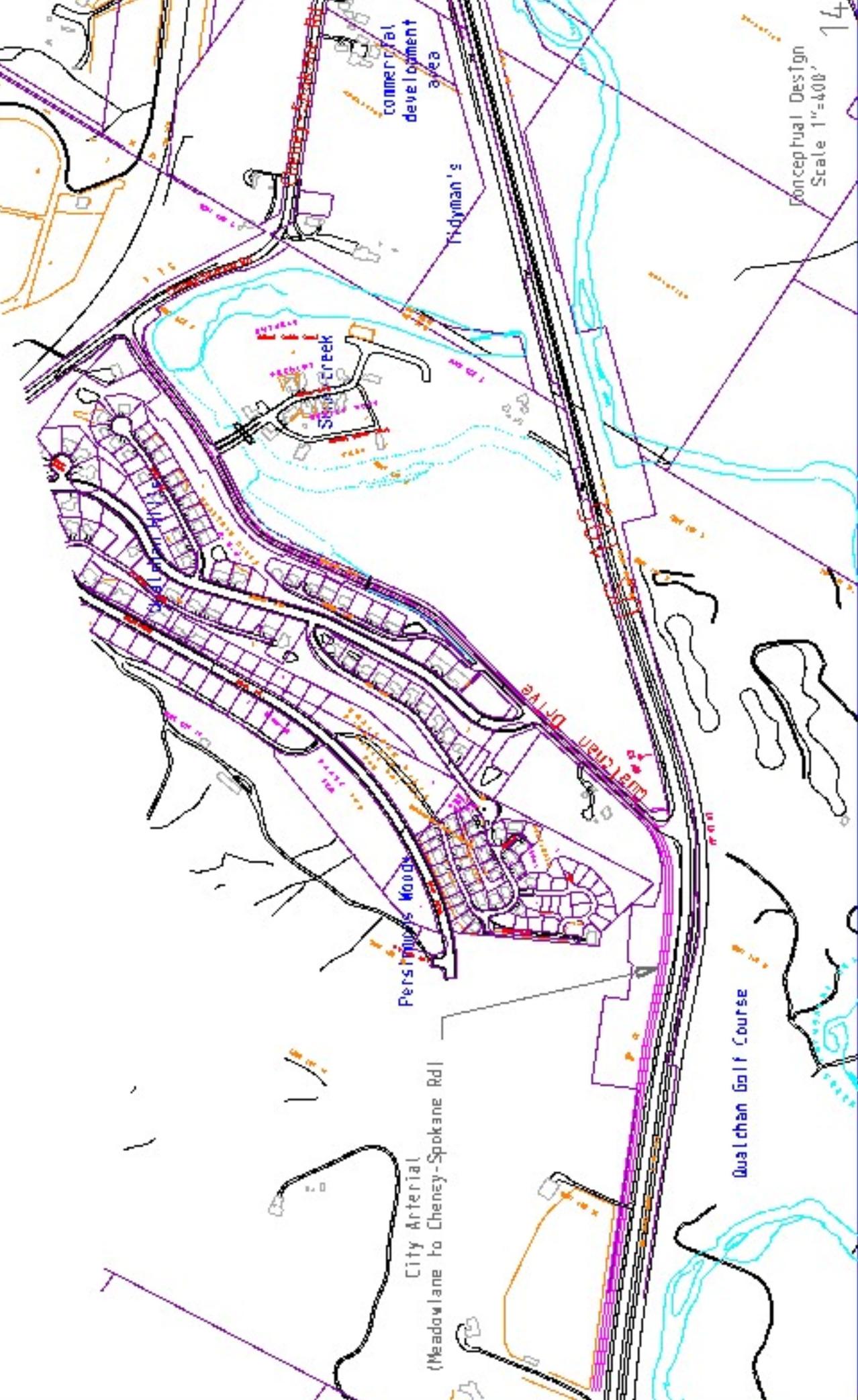
MP 92

US 195

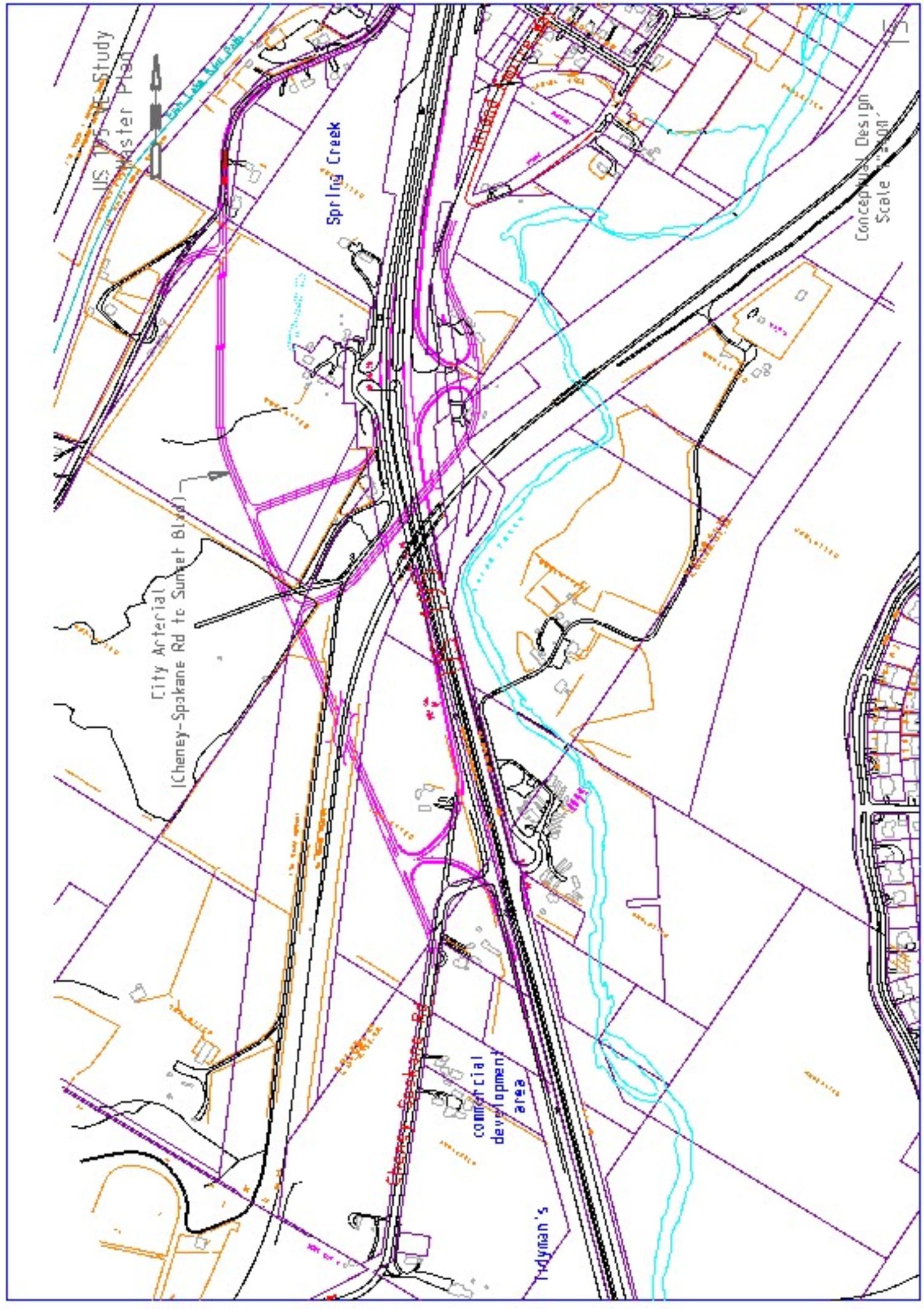
MP 20



US 195 VE Study
Master Plan



Conceptual Design
Scale 1"=400'



US 195 VE Study
Master Plan



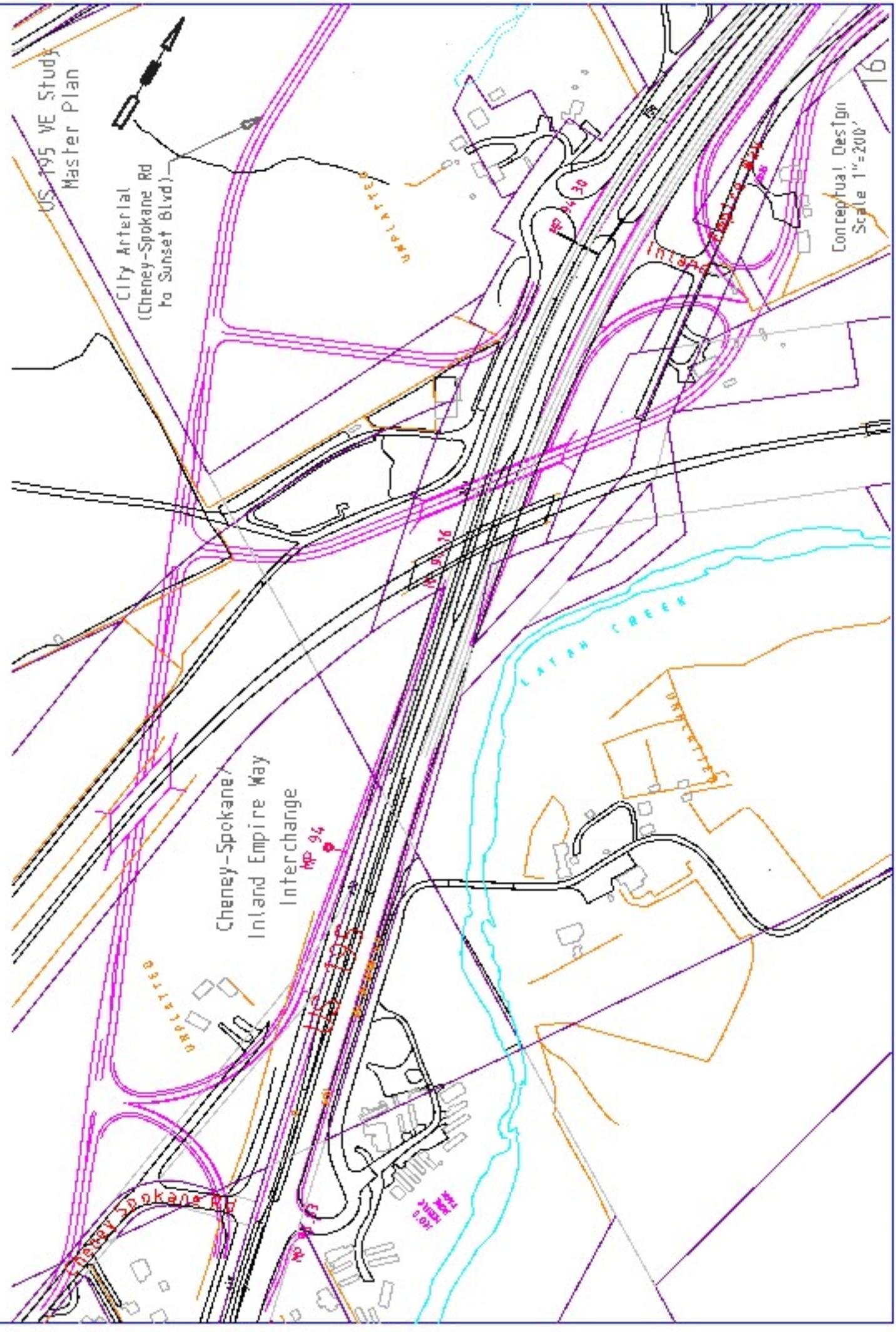
City Arterial
(Cheney-Spokane Rd
to Sunset Blvd)

Conceptual Design
Scale 1"=200'

Cheney-Spokane/
Inland Empire Way
Interchange
MP 94

Cheney-Spokane Rd

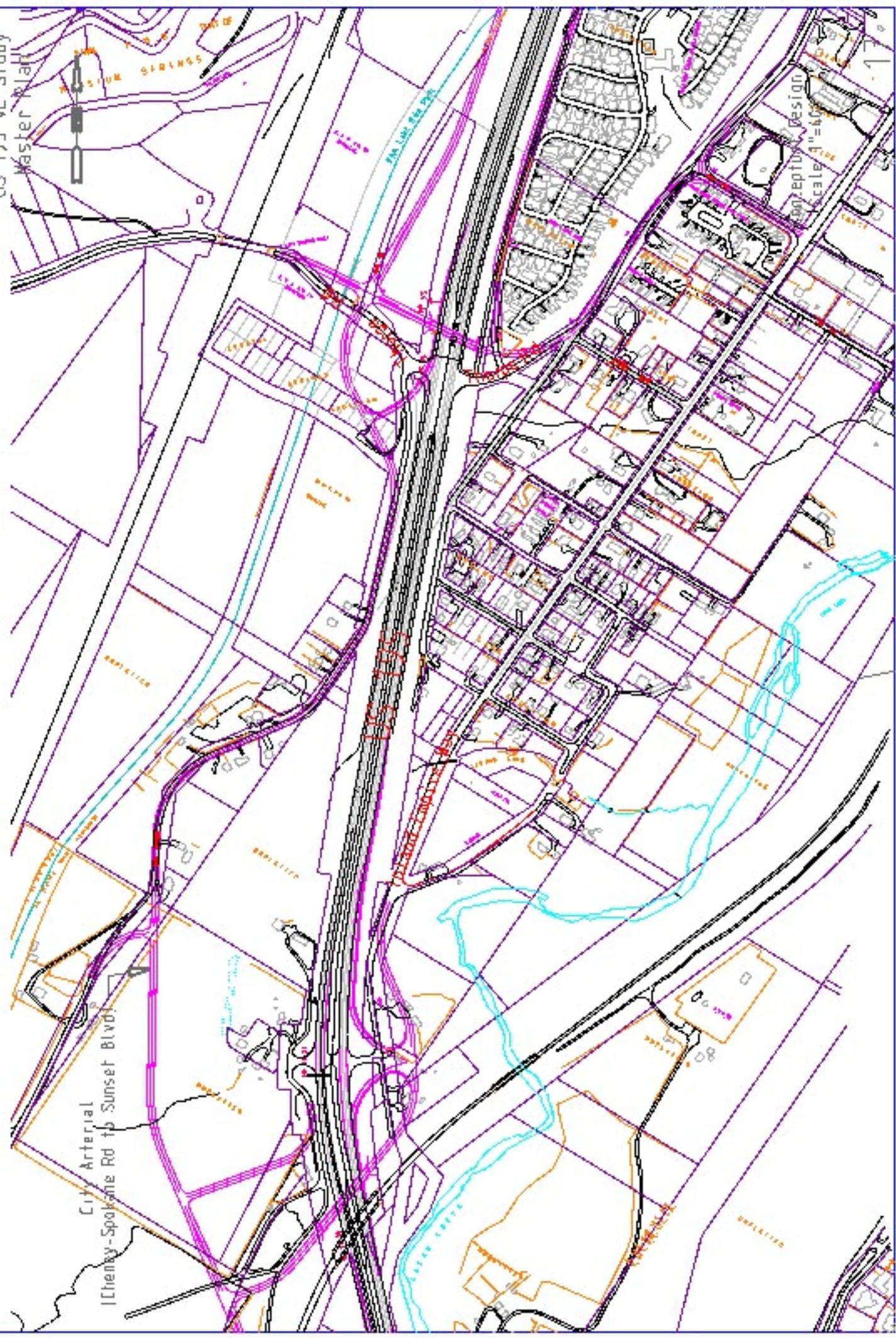
Inland Empire Way



US 195 VE Study
Master Plan

City Arterial
Cheney-Spokane Rd to Sunset Blvd

Conceptual Design
Scale 1" = 40'



Canyon Bluff

City Arterial
Cheney-Spokane Rd
To Sunset Blvd

Conceptual Design
Scale
1" = 400'



VE Study SR 195

(Hatch Road to Cheney-Spokane Interchange)

January 4-8, 1999

Notes:

Descriptions and alternatives are discussed starting at Hatch Road intersection and continuing northbound on SR 195.

Hatch Road Interchange

Advantages and reasons for improving the Hatch Road Intersection at MP 91.17:

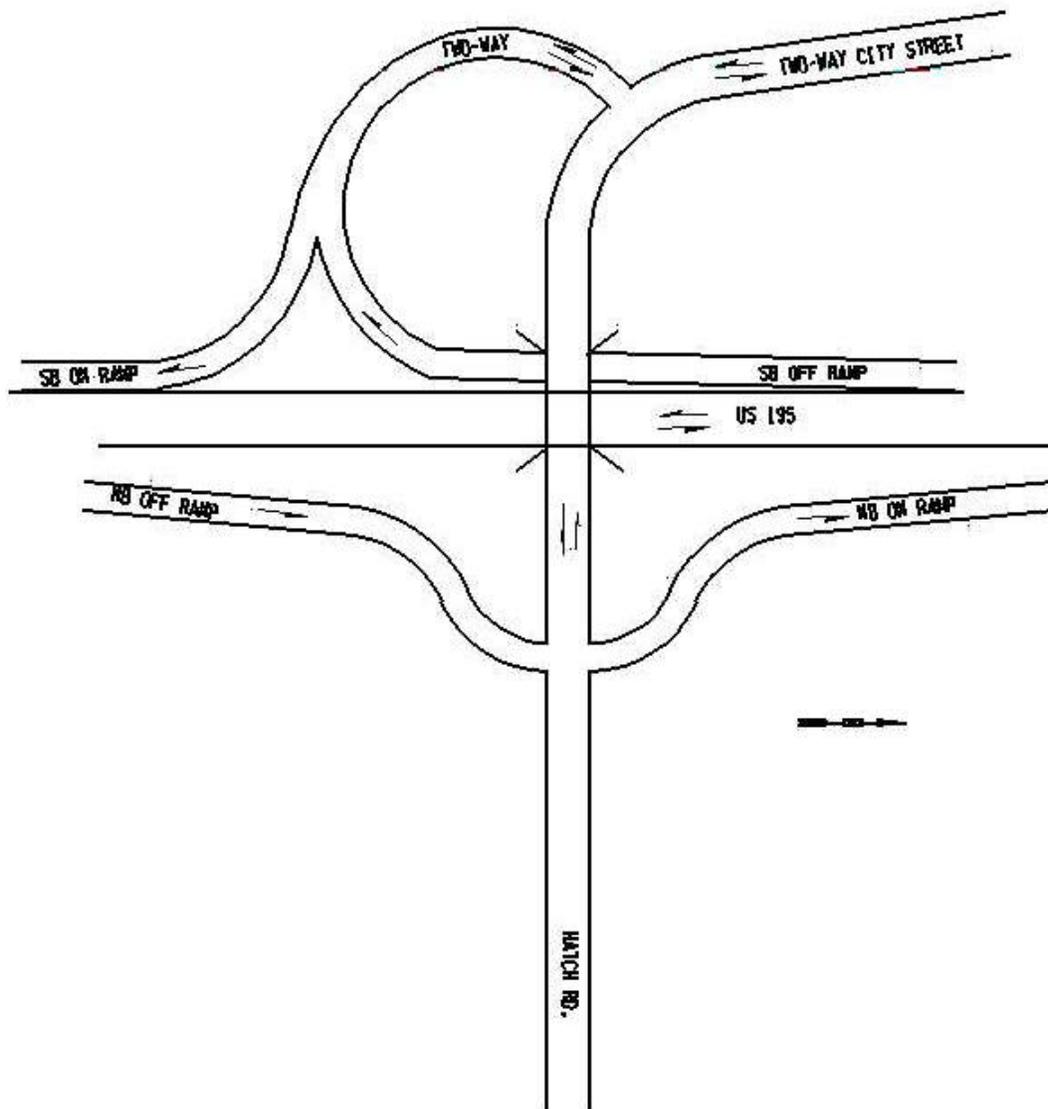
- Hatch road is the only connector from south Spokane to SR 195 southbound.
- Hatch road carries high volumes of traffic.
- Hatch road is a minor arterial and a regional connector.
- The existing bridge on Hatch road immediately east of the intersection is nearing life expectancy and needs to be replaced.
- This road is a heavily used bicycle route.
- Hatch road intersection is the site of many collision accidents resulting from left-turn movements on and off of SR 195. Fatalities have occurred at this intersection. A grade separation will eliminate these types of collision accidents and solve an existing safety problem.

Disadvantages associated with changing the Hatch Road intersection:

- The topography on the west side of SR 195 is steep and possibly contains a substantial quantity of basalt rock.
- There is no connection to Hatch Road coming from the west at this time.
- Environmental issues include but are not necessarily limited to effects on Hangman Creek (potential for contamination during construction), impacts to the Hangman Creek floodplain, such as filling, wetland impacts, both long and short term, from construction of approach fills, and riparian impacts associated with the loss of trees, shrubs and other vegetation found within the footprint of the new alignment.
- Negative aesthetic impacts may result from the construction of large cuts and fills required to meet the geometric needs of a grade separation at SR 195 and a new bridge over Hangman Creek.
- Highway runoff and stormwater will need to be treated before entering Hangman Creek.

Hatch Rd Design Considerations

Tight radii on E side to avoid Cr. impacts.
NB (on/off) larger radii and longer storage area at end of city street
before crossing 195 to accommodate left turns.
Partial clover addresses two-way city street
and allows existing freeway SB @ Hatch.



Design considerations for a new Hatch Road Interchange

A partial clover-leaf configuration was chosen after considering the tight radii required to avoid impacts to Hangman Creek on the east side of the new structure. The new bridge structure will be located south of the existing intersection to allow traffic to use the existing bridge and at-grade intersection on SR 195 during construction. Relocating the bridge over Hangman Creek will also address geometric improvements to Hatch Road to the east.

Hatch Road will be elevated prior to crossing Hangman Creek and this elevation will be maintained to bridge both north and south bound lanes of SR 195. The bridge over SR 195 could be used as a portal to the city of Spokane because it will be the first structure encountered upon entering the city limits of Spokane. Hatch Road will then continue as a

new street north toward Spokane on the west side of SR 195.

A two-way ramp will provide access to the southbound lanes of SR 195 and also carry southbound exiting traffic from SR 195 to Hatch Road and the new city street. Northbound on and off ramps will be constructed utilizing MSE walls where appropriate to avoid impacts to Hangman Creek.

City Street (Hatch Road to Meadowlane Intersection)

Advantages to building a two-way city street as a continuation of Hatch Road on the west side of SR 195:

This would be similar to a frontage road but would have shoulders wide enough to accommodate a bicycle lane. This road will continue north and eventually connect, via other county and city streets, to the 1-90 corridor at the north end of the study area.

- This route will provide much needed connectivity to other roads and developments along the SR 195 corridor.
- This street will provide mobility for residents without using SR 195.
SR 195 is a limited access highway with a posted speed limit of 55MPH.
- It will provide emergency vehicle access to residents along SR 195.
- It can provide a detour route in the event of accidents on SR 195.
- It will provide school and transit bus routes along the SR 195 corridor without resorting to travel on the limited access highway.
- Route continuity will be maintained on Hatch road across the SR 195 corridor and down the Hangman Creek valley toward the commercial development at the Cheney-Spokane Road Interchange.

Disadvantages to a city street along SR 195:

- Costs associated with the new street include snow removal and routine maintenance of the facility.
- An additional strip of land will be covered with an impervious surface requiring measures to treat highway runoff from storm events.

Meadowlane Intersection

Advantages to constructing a Meadowlane Intersection:

- This intersection would serve a future city principle arterial from the Eagle Ridge Development.
- It will connect Qualchan Hills Golf Course and Meadowlane to the new city street.
- This intersection will remove local traffic from SR 195.
- There is a potential for developer assisted funding for this intersection.
- It will eliminate at-grade turning movements and address a safety problem.

Disadvantages to constructing a Meadowlane Intersection:

- Greater traffic impacts to local neighborhoods will occur.
- Environmental impacts to Hangman Creek floodplain may occur.
- Shoreline issues must be addressed if construction occurs near Hangman Creek.
- Visual aesthetic impacts will result if a raised structure is built.
- This intersection would serve mainly a local population (Meadowlane) instead of a regional base.
- This intersection would be in close proximity to the Cheney-Spokane Road Interchange yet to be constructed.
- Without a new Hatch Road interchange, southbound traffic from Hatch Road must go out-of-direction to go to Pullman, Colfax, and points south.

Meadowlane Overcrossing Vs Undercrossing

Overcrossing

Advantages:

- This type of crossing is generally less expensive than an undercrossing
- Bicyclists seem to prefer this type of crossing.
- A bridge will eliminate a dangerous at-grade intersection.
- There is a potential for developer participation.
- The structure could be utilized as a “Portal” to the city of Spokane.
- Use of an overcrossing, eliminates the need for one intersection.

Disadvantages:

- A more circuitous route results for residents of Bridlewood and Qualchan Hills Golf Course.
- A bridge may not be aesthetically pleasing in this corridor.
- This configuration requires a larger footprint due to elevated ramps.

Undercrossing

Advantages:

- This type of intersection would be less obtrusive aesthetically.
- This structure would eliminate an at-grade intersection on SR 195.
- A smaller footprint would be required.

Disadvantages:

- Undercrossings are generally more expensive than above ground structures.
- Drainage becomes a consideration that can be expensive to fix at the bottom of the undercrossing below SR 195.
- It requires an additional intersection versus the overcrossing option

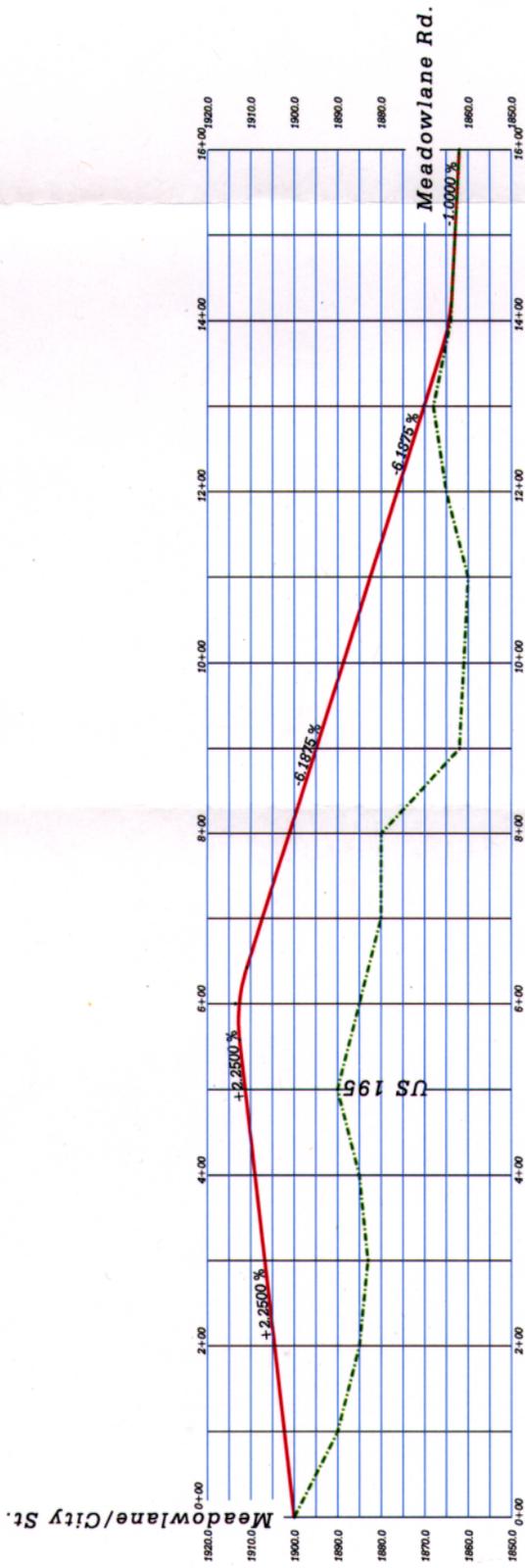
City street from Meadowlane to Qualchan Road

Advantages:

- This new street will improve local access to homes in the area
- It removes local traffic from SR 195
- It provides an alternate route in case of accidents or the need for a detour for any reason on SR 195.

Disadvantages:

- The new street will increase traffic in front of existing homes.
- Additional impervious surface will contribute to stormwater and runoff problems.
- Additional right of way will be required to construct the street.



Meadowlane Road Undercrossing

This roadway profile illustrates the feasibility of constructing a City arterial connecting Meadowlane Road over US 195 to connect with the proposed city arterial street on the west side of US 195.

Qualchan Road Intersection Closure at MP 92.93

Advantages:

- Closing this intersection meets the Latah Creek Specific Plan.
- Closing it eliminates a dangerous at-grade intersection on SR 195.
- Greater mobility is provided by connecting Qualchan Road with two new city arterials.
- Existing streets are utilized under this proposal.
- With this new configuration, there will be a new street access to Cheney-Spokane Road.

Disadvantages:

- This will increase residential traffic in the vicinity of a future school site.
- Improvement of Cheney-Spokane Road and the existing Qualchan Road is required resulting in possible wetland impacts and associated mitigation costs.

City Street from Qualchan Road to Cheney-Spokane Road adjacent to SB lanes of SR 195

Advantages:

- This option avoids wetland impacts at the Cheney-Spokane and Qualchan Road intersection.
- It agrees with the Latah Creek Specific Plan.
- There is less right of way required for this option.

Disadvantages:

- There will be slight wetland impacts along SR 195 near the Spring Creek Development.
- There is a potential for local residents to ask for an approach from the Spring Creek Development.
- Additional impervious surface will be created requiring measures to treat stormwater and highway runoff.

Diamond Interchange with Texas Style Frontage Road at Hatch Road Interchange

Advantages:

- A diamond interchange would result in a smaller footprint at Hatch Road.
- Less right of way would be required.
- It may be less expensive than other options.

Disadvantages:

- This option requires more out-of direction travel for some traffic movements.
- It requires intersections with potential conflicts as opposed to continuous flow traffic.
- It will require additional structures to accommodate the NB frontage road and may impact Hangman Creek.
- It will require two lanes NB with a gore area near the Hatch Road Interchange.
- There will be speed differentials at merge points that must be considered.

This option was dropped because of concerns about traffic movement and driver expectations. This type of system is new to this area and would break up the continuity of Hatch Road where it becomes the new city street.

The group considered it important to maintain a smooth uninterrupted (outside of normal intersections) flow of traffic on the city street from Hatch Road to 1-90.

DESIGN ALTERNATIVE SELECTED FOR EVALUATION: Thorpe Overcrossing

SKETCH AND DESCRIPTION

1904 finished bridge grade 1820 @ Chestnut & 20th = $84/(1400-200 \text{ for VC}) < 8\%$ OK

may need bike separation on RR grade $80' \times 12' \times \$100 = \$100k$

8% max. city grade unless deviation is applied for.

Use existing Thorpe alignment to touchdown @ Chestnut & 20th (no driveway impacts)

I/S with Cascade frontage using existing horizontal alignment

WORKS ONLY FOR NO NB ON-RAMP

See Duane's alignment if NB ramp is used - requires 4 lane bridge, breaks frontage road continuity, difficult ramp construction

Cons

- Ramp too expensive
- Quickly fail capacity
- Intersections too close (weaving)
- 300' separations between intersection
- 4-lane bridge - retaining wall
- Restricts local options

Pros

- Quicker access
- Splits local traffic

Southbound off ramp

Study traffic figures to ensure benefits outweigh safety fire response time

Con - close to I-90 Interchange (weaving)

move to south of Thorpe - allows right on frontage & ability to manage left turn @ signal - also better management of queue backup to SR195 & better length weave from I-90

EVALUATION PHASE (continued)

IDEA	ADVANTAGES	DISADVANTAGES
Northbound onramp at Thorpe Interchange	Quicker access to SR195 for Thorpe 16 th , & Cascade traffic	Introduces merge and crossing conflicts near I-90
	Reduces travel time	Difficult merge for westbound I-90 traffic
		Significant R/W impact to Latah neighborhood
		25 MPH loop ramp is not ideal
		Poor local street operations in onramp vicinity
		Conflicts with Latah Creek neighborhood plan

Hatch Road to 1-90

T&E and Wetland Issues

Wetland Impacts:

Construction at Thorpe Road on SR 195 will impact wetlands that occur in the south quadrants of the proposed foot print. This wetland is less than 1/2 acre in size. It consists of a riparian corridor that is bisected by SR 195. There is a live stream running through this section with trees, shrubs and other riparian vegetation associated with it.

Any improvements to the intersection at Cheney-Spokane and Qualchan Roads will have the potential to impact a wetland. This wetland is greater than one acre in size and is associated with the ox-bow cut off from Hangman Creek by the construction of SR 195.

Wetlands associated with Hangman Creek are present at the Hatch Road intersection. They are narrow linear strips along the stream on both sides of the creek. The area likely to be impacted will be less than one tenth acre.

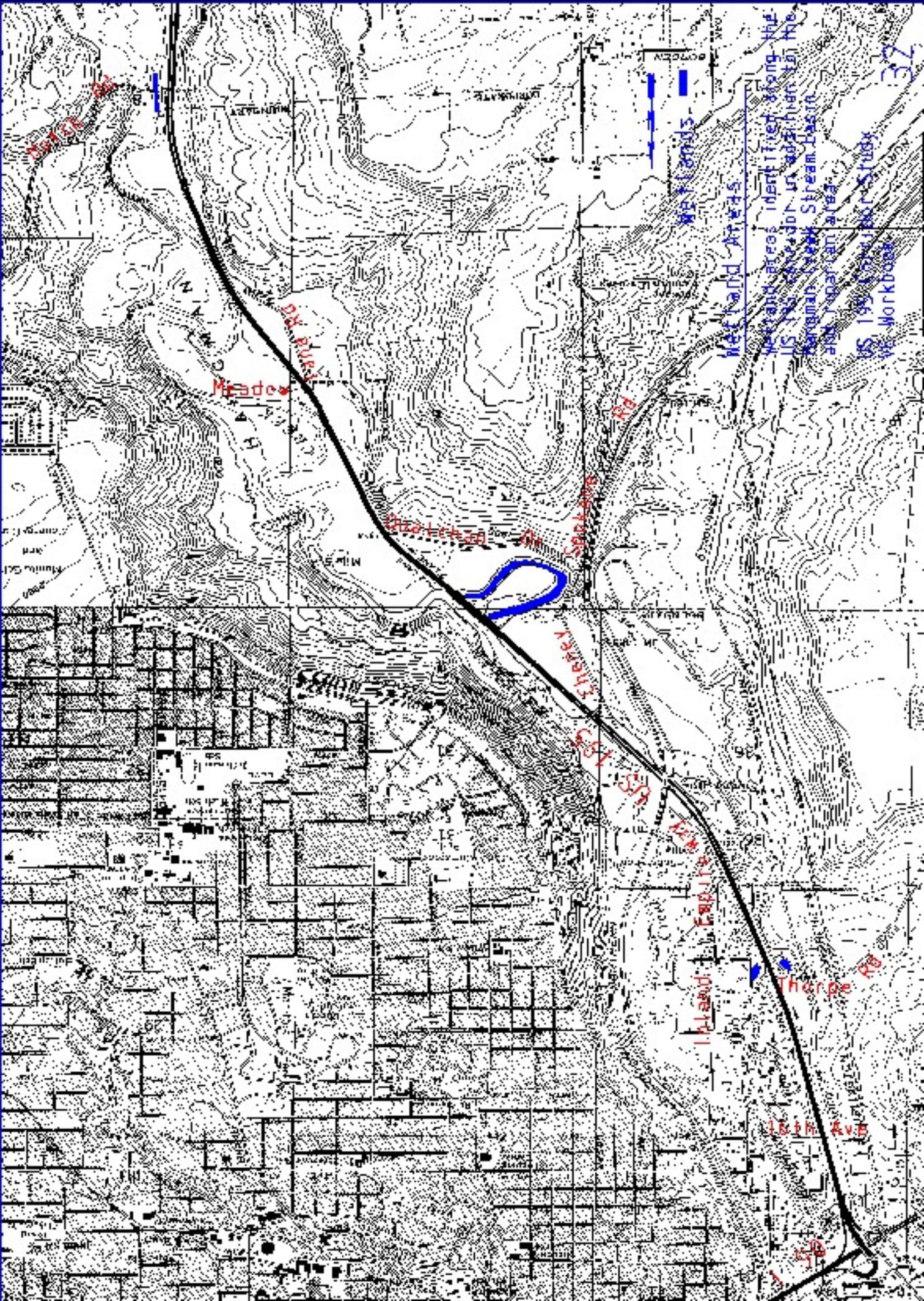
There is no evidence of any outstanding or irreplaceable wetlands along the corridor. The wetlands impacted are typical of this area. All wetland mitigation will follow the sequence to eliminate, reduce, and/or compensate for wetland impacts as set forth in Presidential Executive Order 11990 "Protection of Wetlands".

Threatened / Endangered Species:

No T&E species will be adversely affected by these improvements. Peregrine falcons may be found in the Hangman Creek area as there is a known nest site on the Old Sunset Highway Bridge. No nest site for this species will be disturbed.

Bald eagles occur during the winter months and occasionally are seen along the creek. No known eagle nest sites occur within the limits of this study. Most Bald eagle sightings are associated with the Spokane River and Coeur d'Alene Lake area.

No sensitive plants are known to exist within the footprints of any intersections or new routes as studied.



Meadow

Red River

Shanty

Shanty

1851

Pond

Therpe Rd

Wetland Areas

Stream

Wetland areas identified using the US Fish and Wildlife Service's Wetland Inventory (Wetland Inventory) and the National Wetland Inventory (NWI) maps.

US Fish and Wildlife Service
Wetland Inventory

Phasing of the project (South Portion Only.)

Phase I

The first phase of construction will be to close the at-grade intersection on SR 195 MP 92.93 (Qualchan Road). A temporary cul-de-sac will be constructed at this time.

Phase II

During this phase the Hatch Road Interchange will be constructed. The new city street at the west end of the interchange will be closed off and the rest of the street (northbound) will be constructed at a later date.

Phase III

Construction of the Meadowlane intersection will occur and a barrier will be placed in the median to prevent cross traffic. A right in, right out turning movement will exist at SR 195 MP 92.28 until completion of phase IV.

The city street will be constructed from the new Meadowlane intersection north to Qualchan Road at this time. A temporary connection with the at-grade intersection on SR 195 at MP 92.28 will be maintained until Phase IV is completed.

The cul-de-sac at Qualchan Road will be removed at this time and the existing Qualchan Road and Cheney-Spokane Road to the commercial area will be improved as a part of this phase.

Phase IV

Construction of the city street from Hatch Road north to Meadowlane intersection will be completed at this time. The at-grade intersection at MP 92.28 on SR 195 will be closed at this time. The connection from the city street to SR 195 at this location will also be closed. This connection could be gated and locked to provide an alternate route for emergency vehicles.

North SR 195 Phasing

1. To eliminate access at 16th, east and west, and move that traffic to Thorpe Road via new city streets, both east and west, would only worsen an existing safety location at the Thorpe Road and SR 195 intersection.
2. Eliminating the all access or left turn access at Thorpe Road, may improve safety at that location but this existing movement would probably be transferred to Inland Empire way, worsening that situation.

The entire improvements proposed for this section from Cheney-Spokane Road to SR 90 must be done at one time in order to increase safety in this corridor. This work will include:

- A. City street east and west of SR 195 between 16th Ave. and Thorpe Road, eliminating access at 16th Ave.
- B. Thorpe Road connection over SR 195 and SB off ramp, eliminating the need for access at Thorpe Road.
- C. Construct entire Cheney-Spokane Road Interchange, eliminating need for at grade access at both Cheney-Spokane Road and Inland Empire Way.
- D. Construct city street from Thorpe Road to Cheney-Spokane Road west of SR 195. Inland Empire Way is designated by the city as a Collector-Arterial therefore it is not designated to handle traffic from outside the Latah Creek Community.

Construction Staging Hatch Road to SR 90

1. Qualchan Road intersection with SR 195 elimination
2. North Corridor Improvements
3. Hatch Road Interchange
4. Meadowlane Road connection with right in right Out at both sides of Meadowlane Road. Included with this is the city street construction from Meadowlane Road to Qualchan Drive and improvements to existing Qualchan Drive and Cheney-Spokane Roads.
5. City street construction from Meadowlane Road to Hatch Road
6. Costs

1)		\$20,000
2)	A) Cheney-Spokane I/C	\$6,000,000
	B) City Street east of SR195, 16 th to Thorpe	\$1,500,000
	C) City Street west of SR195 16 th to Thorpe	\$1,600,000
	D) Thorpe Road connection with ramp	\$3,900,000
	E) City Street Thorpe to Cheney-Spokane	\$2,000,000
3)		\$5,400,000
4)		\$3,100,000
5)		\$2,200,000

South - \$10,700,000
 North - \$15,000,000
 Total - \$25,700,000